Spinal epidural angiolipoma: MR findings.

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AJNR Am J Neuroradiol 1991, 12 (4) 744-745
http://www.ajnr.org/content/12/4/744.citation

Spinal Epidural Angiolipoma: MR Findings

Epidural lipoma is an uncommon benign spinal neoplasm that may be associated with a prominent vascular component (angiolipoma) in about one third of cases [1]. We report the plain and contrast-enhanced MR appearance of a histologically proved spinal epidural angiolipoma.

Case Report

A 42-year-old woman had paresthesias of the left leg, which extended to the right leg and pelvis. Concurrently, her gait became progressively abnormal. Neurologic examination revealed hyperreflexic paraparesis with bilateral Babinski signs and tactile and pain anesthesia at the T5–T6 level. MR of the spine at 0.5 T (Figs. 1A–1D) showed a spindle-shaped mass hyperintense to the spinal cord on T1-weighted, balanced, and T2-weighted images that impinged posteriorly on the cord at T5–T6. An isointense portion was present on T1-weighted images (Figs. 1A and 1B). After IV administration of gadopentetate dimeglumine (0.1 mmol/kg), early and diffuse enhancement of the lesion occurred and was more marked in the isointense portion (Fig. 1E). A myelogram CT (Fig. 1F) subsequently confirmed the extradural location of the posterior mass, which showed, in part, density values similar to those of the paravertebral muscles. IV contrast medium was not administered. The patient had a T3–T7 laminectomy, and an encapsulated yellowish highly vascularized mass covering the dura was removed. Histologic examination showed abundant vascular elements intermixed with mature adipose tissue (angiolipoma) (Fig. 1G).

Discussion

In the absence of bone involvement, an expanding extradural mass in the thoracic spine in a middle-aged woman is usually a benign tumor (meningioma, neurinoma, lipoma), hematoma, abscess, or, sometimes, metastasis or secondary localization of a systemic disease (leukemia, lymphoma). An additional cause is the so-called extradural lipomatosis that affects women who have Cushing disease or who have been on steroid therapy for several years [2]. In our case, the progressive course of the patient's symptoms, the absence of fever and of known infective or neoplastic foci, and the circumscribed localization of the lesion limited the differential diagnosis to the extradural benign tumors. The bright signal of most of the lesion on T1-weighted images made the diagnosis of lipoma straightforward. However, the corresponding bright signal on T2-weighted images was atypical for such a neoplasm because fat tissue usually shows a characteristic decay of signal intensity on T2-weighted images [2].

To date, the CT or MR features of spinal extradural angiolipoma have been reported for only a few cases. CT shows a low- or intermediate-density mass that, because of the rich vascular component, readily enhances with IV contrast medium [3–5]. In the case studied with MR, a bright mass on T1- and T2-weighted images was found [5]. We had similar findings in our case except for the presence on T1-weighted images of a portion with lower signal intensity that subsequently showed contrast enhancement. The reason for the high signal intensity on T2-weighted images of angiolipoma is unclear, but it may be due to the high content of stagnant blood, which has a relatively long T2 relaxation time [6]. In the more vascularized portion of the tumor, slowly flowing blood may contribute substantially to the

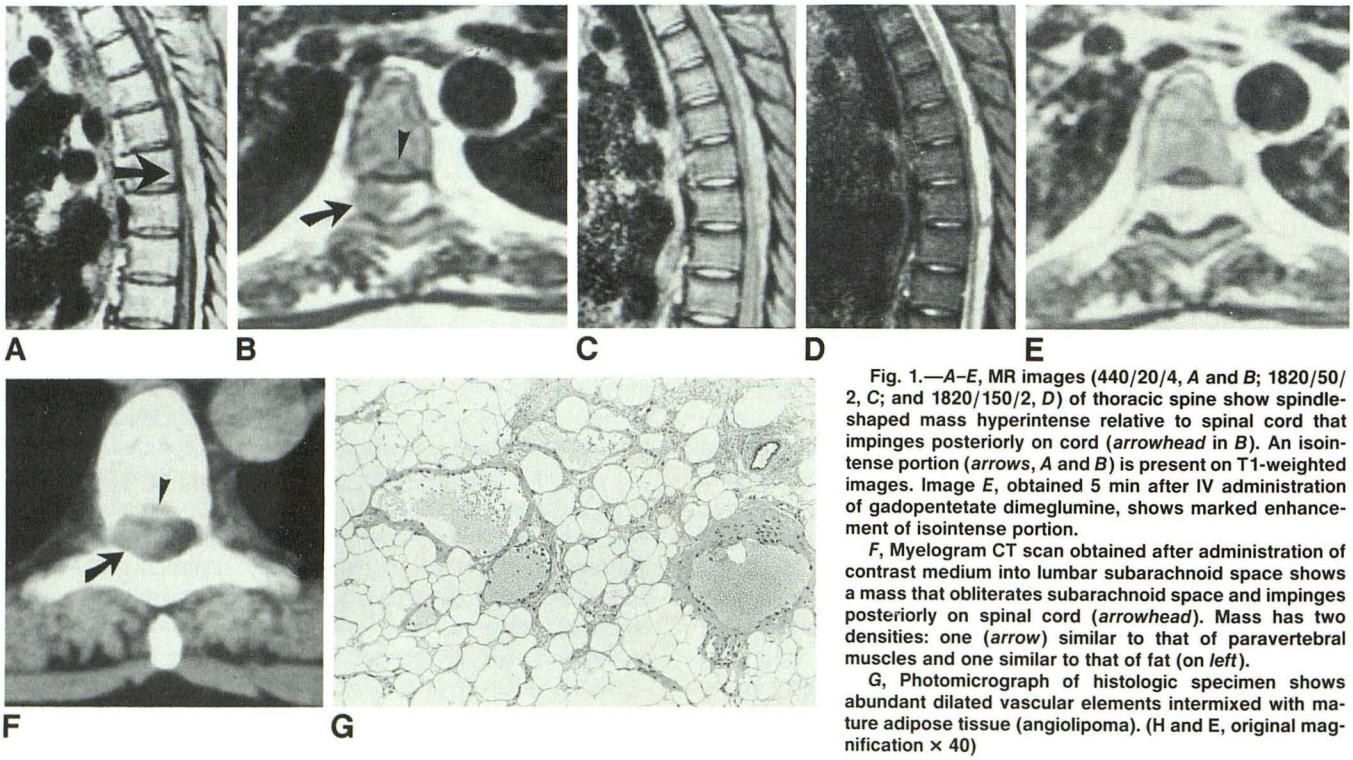

Fig. 1.—*A–E*, MR images (440/20/4, *A* and *B*; 1820/50/2, *C*; and 1820/150/2, *D*) of thoracic spine show spindle-shaped mass hyperintense relative to spinal cord that impinges posteriorly on cord (*arrowhead* in *B*). An isointense portion (*arrows*, *A* and *B*) is present on T1-weighted images. Image *E*, obtained 5 min after IV administration of gadopentetate dimeglumine, shows marked enhancement of isointense portion.

***F*, Myelogram CT scan obtained after administration of contrast medium into lumbar subarachnoid space shows a mass that obliterates subarachnoid space and impinges posteriorly on spinal cord (*arrowhead*). Mass has two densities: one (*arrow*) similar to that of paravertebral muscles and one similar to that of fat (on *left*).**

***G*, Photomicrograph of histologic specimen shows abundant dilated vascular elements intermixed with mature adipose tissue (angiolipoma). (H and E, original magnification × 40)**

signal, conferring a low or intermediate signal intensity on T1-weighted images. This is similar to what is observed in other vascular tumors such as orbital hemangioma.

In conclusion, this case indicates that a diagnosis of angiolipoma should be considered when an extradural spinal mass associated with a progressive clinical course has the combined aspects of iso- or hyperintensity on T1-weighted MR images and hyperintensity on T2-weighted images and shows contrast enhancement on MR.

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